

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Application of San Diego Gas & Electric Company
(U 902-E) for Approval of SB 350 Transportation
Electrification Proposals.

Application 17-01-020
(Filed January 20, 2017)

And Related Matters.

Application 17-01-021
Application 17-01-022

**PREPARED REBUTTAL TESTIMONY OF
LINDA BROWN
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

September 5, 2017



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**PREPARED REBUTTAL TESTIMONY OF
LINDA BROWN**

I. OVERVIEW AND PURPOSE

On January 20, 2017, SDG&E served the direct testimony of several witnesses supporting both its priority review projects and its standard review Residential Charging Program, including the policy testimony of Michael M. Schneider. As a result of shifting management responsibilities, Mr. Schneider is no longer overseeing SDG&E’s clean transportation group. Accordingly, I have adopted Mr. Schneider’s original policy testimony as my own and am now offering this rebuttal policy testimony in support of a modified version of SDG&E’s original Residential Charging Program.

The purpose of my rebuttal testimony is to provide a high-level overview of the modified Residential Charging Program, which is principally based on recommendations contained in intervenor testimony. I will also explain how the modified Residential Charging Program continues to meet the policy objectives of Senate Bill 350 (“SB 350”), as set forth in the “Assigned Commissioner’s Ruling Regarding the Filing of the Transportation Electrification Applications Pursuant to Senate Bill 350” (“ACR”) (issued in Rulemaking 13-11-007). Additionally, I provide brief descriptions of the rebuttal testimony of SDG&E’s other witnesses who address the modifications in more detail.

II. SUMMARY OF REBUTTAL TESTIMONY

SDG&E’s rebuttal testimony covers the following:

- Rebuttal Testimony of Parina Parikh¹: addresses how the modified Residential Charging Program continues to meet the statutory requirements of SB 350 and the regulatory requirements as set forth in the ACR;

¹ Ms. Parikh is a new SDG&E witness and has adopted my original direct testimony as her own.

- 1 • Rebuttal Testimony of Randy Schimka: provides details regarding how SDG&E
2 has agreed to modify its original Residential Charging Program in response to
3 intervenor recommendations;
- 4 • Rebuttal Testimony of J.C. Martin: in response to The Utility Reform Network
5 (“TURN”) and Office of Ratepayer Advocates (“ORA”), addresses cost
6 effectiveness and benefits of managed charging;
- 7 • Rebuttal Testimony of Cynthia Fang: based on the modified Residential Charging
8 Program, describes new rate options for customers including a new EV-only grid
9 integrated rate, addresses intervenor testimony related to the proposed
10 Residential, Commercial, and Public Grid Integrated Rates (“GIRs”), and
11 provides bill impacts associated with the modified program;
- 12 • Rebuttal Testimony of Mike Calabrese: based on the modified Residential
13 Charging Program, provides updated revenue requirements; and
- 14 • Rebuttal Testimony of Norma Jasso: confirms how SDG&E is proposing to
15 record revenue and costs associated with the modified Residential Charging
16 Program in a one-way balancing account.

17 **III. MODIFIED RESIDENTIAL CHARGING PROGRAM**

18 **A. The Modified Residential Charging Program is Based on the Proposals of a** 19 **Broad Cross-Section of Intervenors**

20 The modified Residential Charging Program is responsive to the joint intervenor
21 testimony of the Natural Resources Defense Council (“NRDC”), Coalition of California Utility
22 Employees (“CCUE”), Plug In America, The Greenlining Institute, Sierra Club, Environmental
23 Defense Fund, the Alliance of Automobile Manufacturers, Greenlots, eMeter, a Siemens
24 Business (“Siemens”), and Electric MotorWerks, Inc. (“eMotorWerks”) (collectively, the “Joint
25 Parties”). The Joint Parties’ proposed modifications to SDG&E’s original Residential Charging
26 Program reflect the interests of a diverse cross-section of parties, including Electric Vehicle
27 Supply Providers (“EVSPs”), such as Siemens and Greenlots, who prefer a program that includes
28 an end-to-end utility ownership option, as well as representatives of labor, environmental and
29 social justice advocates, automakers, and an EV drivers’ non-profit advocacy group.

1 As described below, after carefully assessing the Joint Parties’ testimony, SDG&E has
2 agreed to incorporate many of Joint Parties’ proposed modifications, believing that these
3 modifications do not deter from the program’s ability to meet the policy goals of SB 350 and, in
4 some instances, will improve the likelihood of overall success of the program.

5 **B. Brief Comparison of the Original Residential Charging Program and**
6 **Modified Residential Charging Program**

7 SDG&E’s original Residential Charging Program called for end-to-end utility ownership
8 of 90,000 Level 2 (“L2”) residential chargers, with 20% reserved for disadvantaged communities
9 (“DACs”). Under the original program, SDG&E would install, own, operate, and maintain all
10 the L2 chargers. Installation costs would have been covered up to a cap, with homeowners
11 paying for any costs above the cap. The original program also included the use of a new
12 residential whole-house Grid Integrated Rate (“GIR”) that would incentivize drivers to charge
13 when prices were low (by using day-ahead pricing information) and thereby facilitate efficient
14 use of the grid.

15 The modified Residential Charging Program remains very similar to the original design.
16 However, the modified program provides greater customer choice of the ownership and
17 maintenance of the EVSE equipment, greater choice of rates, and reserves a higher percentage of
18 installations for DAC participants. The most significant change is that the end-to-end utility
19 ownership model is now one of two options available to the participating customers. The other
20 option is a customer ownership model. Thus, customers will have the option of (1) having
21 SDG&E install, own and maintain the electric vehicle supply equipment (“EVSE”) or (2) owning
22 and maintaining the EVSE themselves. The modified Residential Charging Program also
23 includes a new allowance cap structure for the EVSE and a new allowance cap for the
24 installation. Participants will receive an allowance for the cost of the EVSE (\$500 for single and

1 multi-unit dwellings and \$600 for single and multi-unit dwellings in DACs) and an allowance to
2 cover the cost of installation (\$1,425 for single and multi-unit dwellings and \$1,500 for single
3 and multi-unit dwellings in DACs), regardless of the ownership option selected.²

4 There are various residential charging programs based on rebate and make-ready models
5 that currently exist in California. SDG&E recognizes that its program, which includes a utility
6 ownership option, is a first of its kind in the State, and possibly the country. However, as noted
7 in the Joint Parties' testimony, "It is far too early to mandate a single approach across all three
8 service territories."³ This is consistent with the ACR, which stated that the Commission's "intent
9 is to provide the utilities flexibility to maximize benefits and consider innovative program
10 designs, while establishing a market signal toward widespread TE."⁴ Moreover, as discussed in
11 more detail in the Rebuttal Testimony of Parina Parikh, the available data regarding rebate
12 programs is limited, and since the adoption rate related to current rebate programs is not high,
13 such programs will not significantly accelerate widespread TE in a manner consistent with
14 meeting the Governor's and State's TE and GHG reduction goals.

15 In addition to allowing the customer to choose their preferred ownership option, as
16 described above, the Joint Parties proposed that SDG&E incorporate new rate options, require
17 networked EVSEs, increase spending in DACs, establish a Diverse Business Enterprise ("DBE")
18 goal, and develop a revised budget. As described in the Rebuttal Testimony of Randy Schimka,
19 these proposed modifications have been incorporated into the modified Residential Charging
20 Program.

² Specific program details are provided in the Rebuttal Testimony of Randy Schimka.

³ Joint Parties' Testimony at 13 (internal citation omitted).

⁴ ACR at 19, R.13-11-007 (issued September 14, 2016).

1 Regarding costs, as shown in the Rebuttal Testimony of Mr. Calabrese, SDG&E is asking
2 for authority to spend up to \$241.8 million of direct costs for the modified Residential Charging
3 Program. This figure represents a maximum spend amount based on a scenario where all the
4 participants choose the utility ownership model. To illustrate a range of possible costs, the
5 Rebuttal Testimony of Mr. Calabrese also provides an illustrative example of costs based on a
6 scenario where 50% of the participants choose the utility ownership model and 50% choose the
7 customer ownership model.⁵ Regardless of the actual scenario, as described in the Rebuttal
8 Testimony of Ms. Jasso, SDG&E is proposing the use of a one-way balancing account.

9 In sum, the modified Residential Charging Program offers customers a choice of
10 equipment, ownership, and rates, while preserving the competitive request for proposals (“RFP”)
11 process to qualify the EVSE vendor and installation contractors. Other notable elements that
12 will be retained from SDG&E’s original proposal include the size of program and the
13 requirement that installation contractors are licensed, trained, and signatories to the IBEW.

14 **C. The Modified Residential Charging Program Remains Consistent with the**
15 **Policy Goals of the Original Program**

16 As described in the Direct Testimony of Michael Schneider, which I am now adopting as
17 my own, to meet the goals established by Assembly Bill (“AB”) 32 and accelerated in Senate
18 Bill (“SB”) 32, the State must seek new ways to reduce greenhouse gas (“GHG”) emissions. It is
19 also worth repeating that in SDG&E’s service territory (which has less manufacturing, mining
20 and agriculture electricity demand compared to the rest of the state),⁶ transportation accounts for

⁵ Details are provided in the Rebuttal Testimony of Mike A. Calabrese.

⁶ Form 1.1B, SDG&E Mid Demand Case Corrected Form 2.2, Mid Case Final Baseline Demand Forecast, TN-207255, California Energy Commission, 2015 Integrated Energy Policy Report (IEPR), available at http://www.energy.ca.gov/2015_energypolicy/documents/2015-12-17_mid_case_final_baseline_demand_forecast.php (comparing mid-case forecasted electricity sales by sector)(submitted Jan. 8, 2016).

1 approximately 50% of all GHG emissions.⁷ Light-duty vehicles, in particular, comprise 97%⁸ of
2 all registered vehicles in San Diego County and are responsible for approximately 80%⁹ of
3 combined on-road and off-road GHG emissions. Recent studies have shown the degradation of
4 air quality in San Diego County, culminating with the American Lung Association’s grade of
5 “F” in air quality for San Diego County in the organization’s last two year’s “State of the Air”
6 reports.¹⁰ Therefore, the residential transportation sector in SDG&E’s service territory
7 represents a prime target for GHG emissions reductions.

8 SB 350 recognizes that transportation is both a major source of GHG emissions and a
9 critical tool in reducing those emissions. In particular, P.U. Code § 740.12 recognizes the critical
10 role utilities will play when it states, “Widespread transportation electrification *requires*
11 electrical corporations to increase access to the use of electricity as a transportation fuel.”¹¹
12 Moreover, in Executive Order (“EO”) B-16-2012 and the State’s first ZEV Action Plan in 2013,
13 Governor Brown set a target of deploying *grid-integrated charging infrastructure* to serve 1
14 million zero-emission vehicles (“ZEVs”) by 2020 and a goal of 1.5 million ZEVs on California
15 roads by 2025. While there is much enthusiasm for the growing number of EVs sold, it is clear
16 without significant new investment and innovation, California will fall far short of both its TE

⁷ San Diego County Updated Greenhouse Gas Inventory at 3, Energy Policy Initiatives Center, *available at* <http://catcher.sandiego.edu/items/usdlaw/EPIC-GHG-2013.pdf> (March 2013).

⁸ Proprietary IHS/Polk Data (April 2016).

⁹ EPIC San Diego County Updated GHG Emissions Inventory at 8 (March 2013), *available at*: <http://catcher.sandiego.edu/items/usdlaw/EPIC-GHG-2013.pdf>. Details regarding how the 80% was calculated are included in the Direct Testimony of Randy Schimka.

¹⁰ Report Card: California, American Lung Association, *available at*: <http://www.lung.org/our-initiatives/healthy-air/sota/city-rankings/states/california/> (2017); *see also* State of the Air 2017: San Diego/Imperial County Regional Summary, *available at*: http://www.lung.org/local-content/california/documents/state-of-the-air/2017/sota-2017_ca_san-diego-fact.pdf.

¹¹ Cal. Pub. Util. Code § 740.12(a)(1)(E)(emphasis added).

1 and GHG goals. For example, recent failures in the private sector charging industry related to
2 bankruptcy and equipment reliability issues show that new approaches are necessary.

3 SDG&E views its objectives in this area as maximizing GHG reductions and enabling the
4 EV market while minimizing overall costs and continuing to provide safe and reliable power.

5 This supports SDG&E's broader overarching mission to be the cleanest, safest and most reliable
6 energy company in America. Specifically, SDG&E's goals for its modified Residential

7 Charging Program are:

- 8 • providing improved air quality and other environmental benefits, GHG reductions
9 and increased use of alternative fuel, while at the same time improving the
10 efficient use of the electric grid and increasing integration of renewable energy
11 resources;
- 12 • accelerating and/or jump starting sectors within the EV market not significantly
13 developed or lacking infrastructure or capital investment;
- 14 • increasing EV-related demands (e.g., increased EV adoption, use of electricity as
15 a transportation fuel, increased electric miles driven, deployment of charging
16 infrastructure, data on charging patterns, trained and qualified EV-related
17 workforce); this will also create incremental jobs and new opportunities for
18 private sector participation in the market;
- 19 • facilitating both safe and equitable access to electricity as a transportation fuel,
20 including for those living in DACs or low- and moderate-income households,
21 while improving the efficient use of SDG&E's electric system;
- 22 • providing data that will help test and measure the flexibility of EV charging loads
23 and the degree to which the efficient integration of EV loads can yield cost
24 savings to all customers by avoiding future utility infrastructure additions or more
25 efficient operation of the grid; and
- 26 • educating customers currently lacking the knowledge or experience necessary to
27 recognize and adopt electric vehicles as a superior transportation solution.

28 SDG&E believes that all these objectives are consistent with Federal, State and regional policy
29 objectives regarding transportation electrification, including those reflected in SB 350.

30 This concludes my prepared rebuttal testimony.

1 **IV. STATEMENT OF QUALIFICATIONS**

2 I am the Senior Director – Clean Transportation for SDG&E. I oversee the company’s
3 Clean Transportation business unit. My business address is 8306 Century Park Court, San
4 Diego, California, 92123. My educational background includes a Bachelor of Science degree in
5 Electrical Engineering from Southern Illinois University, Carbondale, Illinois. I am a licensed
6 Professional Engineer in Electrical Engineering in the State of California. I have more than 30
7 years of experience with SDG&E which includes various positions in distribution, operations,
8 transmission, supply management, generation, and regulatory affairs. I have testified numerous
9 times before the Commission, most recently on the Sunrise Powerlink. I have also been a subject
10 matter expert on the need for other transmission projects including Mission Miguel and Otay
11 Metro Powerlink.